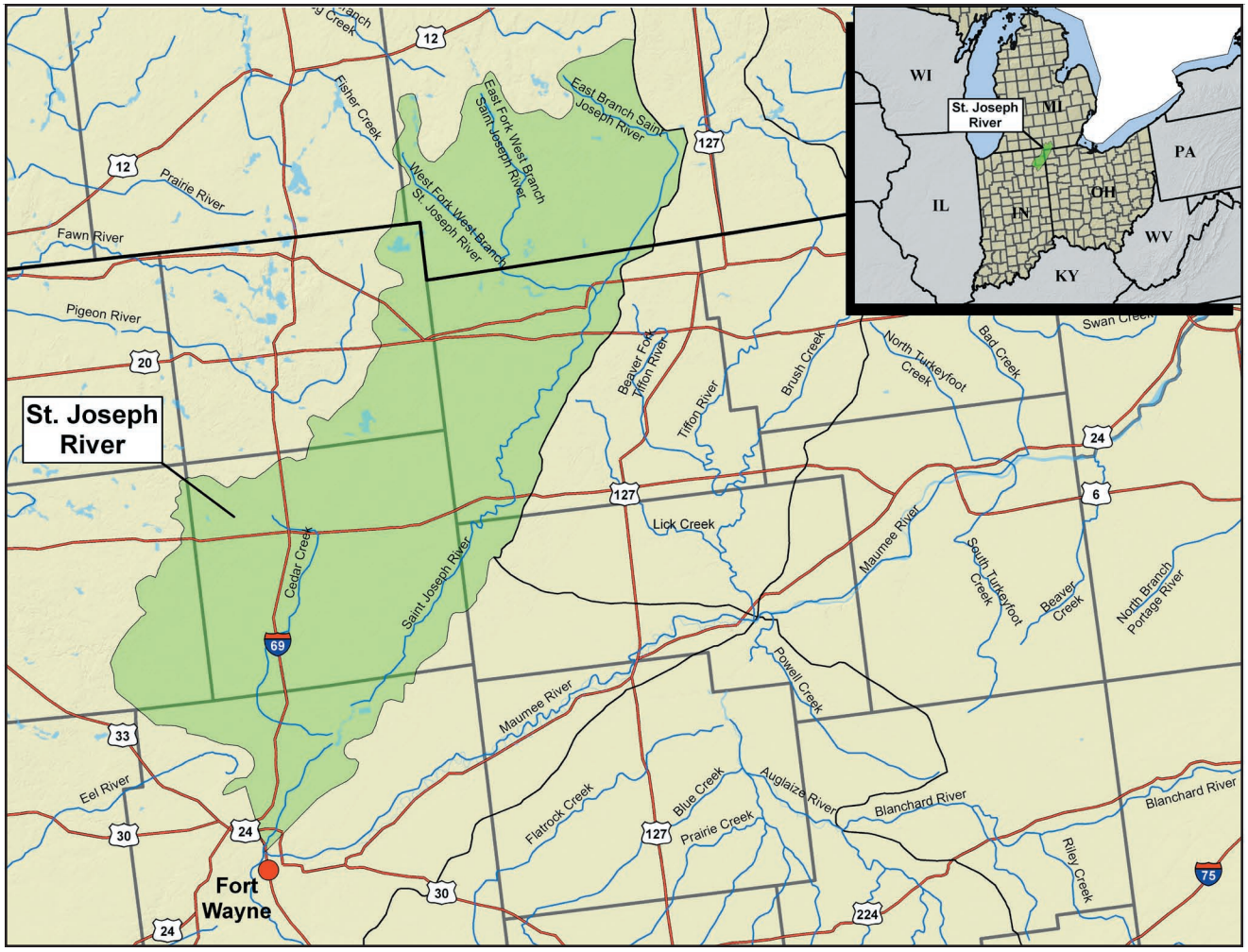
United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

Watershed Fact Sheet

St. Joseph River Watershed, Indiana: 2004-2006

An ARS* Benchmark Research Watershed, one of 24 CEAP watershed projects.



CEAP Assessment

Evaluate water quality, soil quality, and wildlife benefits of practices to reduce pesticide, nutrient, and sediment water pollution.

Issues: Runoff from farms carries atrazine and other pesticides, nutrients, and soil to St. Joseph River which provides drinking water for the 200,000 residents of Fort Wayne, IN.

Watershed Description

- 175,370 acres
- 64% cropland, 15% pasture/forage, 10% forest, wetlands, and 11% urban/industrial
- Participant in Clean Water Act's Section 319 Nonpoint Source Pollution Program.

**Agricultural Research Service*

Typical automated water quality sampler setup in a ditch draining a 10,400-acre watershed.

Student worker Shaun Moore is collecting sediments from a recently dredged ditch for laboratory experiments.

Approach

Water Sampling: Sediment, phosphorus, nitrate-nitrogen, ammonia, and pesticides

Watershed Models: SWAT (Soil and Water Assessment Tool) with weather input and AnnAGNPS (Annualized Agricultural Non-Point Source)

Paired Sub Watersheds: Compare surface runoff, subsurface drainage, and stream-level water quality parameters with and without best management practices on two sub-watersheds.

Field-scale automated sampling site utilizing a modified drop box weir developed by ARS scientist at Coshocton, OH.

Communicating Results

Planned: Three annual progress reports; Geographical Information System (GIS) watershed database; baseline water quality data set for watershed of Cedar Creek, largest tributary of St. Joseph; and calibration, validation of SWAT and AnnAGNPS for Cedar Creek Watershed.

Collaborators

- USDA Natural Resources Conservation Service
- America's Clean Water Foundation
- Soil and Water Conservation Districts
- St. Joseph River Watershed Initiative
- City of Fort Wayne
- Indiana Department of Natural Resources
- Indiana Department of Environmental Management
- Purdue University Cooperative Extension
- Purdue University Agricultural Economics Department

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http://www.nrcs.usda.gov/technical/nri/ceap/